

CLAIMS

1. A method of microscopic visualization of a three-dimensional object wherein the sample (1) is visualized through an interferometer (2),

5 characterized in that local probes (9) of nanometric dimensions are inserted in the sample (1).

2. A method of microscopic visualization of a three-dimensional object according to claim 1, characterized in that the local probes (9) are balls.

3. A method of microscopic visualization of a three-dimensional object  
10 according to claim 1 or 2, characterized in that the local probes (9) are metallic.

4. A method of microscopic visualization of a three-dimensional object according to any of the claims 1 to 3, characterized in that the interferometer (2) is a Michelson interferometer.

5. A method of microscopic visualization of a three-dimensional object  
15 according to any of the claims 1 to 3, characterized in that the interferometer (2) is a Linnik interferometer.

6. A method of microscopic visualization of a three-dimensional object according to any of the claims 1 to 3, characterized in that the interferometer (2) is a Mirau interferometer.

20 7. A method of microscopic visualization of a three-dimensional object according to any of the claims 4 to 6, characterized in that the interferometer (2) includes a wide spectrum source (5).

8. A method of microscopic visualization of a three-dimensional object according to claim 7, characterized in that the source (5) delivers short light  
25 pulses.

9. A method of microscopic visualization of a three-dimensional object according to any of the claims 1 to 7, characterized in that optical means form the picture of a thin slice of the object on a matrix detector (6) via the interferometer (2).

30 10. A device of microscopic visualization of a three-dimensional object comprising :

- an interferometer (2),
- a wide spectrum source (5),
- a matrix sensor (6),
- 35 - means to form the picture of a thin slice of the object on the sensor (6) via the interferometer (2),

- a unit for processing the picture produced by the matrix sensor (6), characterized in that it includes means for inserting local probes (9) in the sample.